

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001081**Date Inspected:** 08-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG floor beam**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Sherri Brannon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

Bay 7**OBG - Floor Beam**

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Jin Chengmao ID #058551 groove welding root pass at floor beam weld joint #FB002-04-023 joining x94B and x47A3 to X15A side a. Mr. Jin was observed welding in the 1G (flat) position utilizing flux cored arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1 semi automatic. QA Inspector Brannon observed the ZPMC QC CWI Inspector Cui Yiru verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed preheat and welding parameters measured by the QC CWI Inspector Cui Yiru to be: preheat temperature of 109°C and welding parameters amps of 270, volts of 28, a travel speed of 506 mm/min and a shielding gas flow of 22L/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2231-B-U2-F-1.

Heat Straightening HSR1(B)-053:

QA Inspector Brannon randomly observed ZPMC personnel performing heat straightening on weld joint FB-001-01-026 joining x46D and x46A to x14A. ZPMC heat straightening number HSR1(B)-053. QA Inspector Brannon observed the ZPMC QC CWI Inspector Mr. Cui Yiru and Bureau Veritas Mr. Liyi Feng observing the process.

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OBG - Floor Beam

QA Inspector Brannon randomly observed ZPMC qualified welder Mrs. Huang Xin Lan ID #044780 groove welding weld joint # FB007-04-021 joining x14A and x46C to x46A-3 side b. Mrs. Huang was observed welding in the 1G (flat) position utilizing a submerged arc welding (SAW) process with a 4.8mm diameter electrode, filler metal brand EM12k, class JW3 machine. QA Inspector Brannon observed the ZPMC QC Inspector Cui Yiru verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). QA Inspector observed welding parameters measured by the QC CWI Inspector Cui Yir to be a minimum of 70°C and measured the welding parameters to be 540 amps, 30.0 volts and a travel speed of 420 mm/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2221-B-L2c-S-1, Revision 0.

OBG-Floorbeams

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Hu Ya Cheng ID #049339 tack welding floor beam weld joint #'s FB008-05-023 joining x47A and x94A to x15A and FB007-06-021 joining x46A and x46C to x14A. Mr. Hu was observed welding in the 1G (flat) position utilizing a shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand THJ506Fe-1, class E7018-1 manual. QA Inspector Brannon observed the ZPMC QC Inspector Li Zhijiang verifying that the welding parameters are in accordance with the Welding Procedure Specification (WPS). QA Inspector observed welding parameters measured by the QC CWI Inspector Li Zhijiang to be: welding parameters amps of 170. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-2211-B-u2-FCM.

OBG-Floorbeams

QA Inspector Brannon randomly observed ZPMC qualified welder Mr. Jin Chengmao ID #058551 welding lifting devices to various floor beams. Mr. Jin was observed welding in the 1F (flat) position utilizing a flux cored arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1 semi automatic. QA Inspector Brannon observed the ZPMC QC Inspector Li Zhijiang verifying that the welding parameters are in accordance with the Welding Procedure Specification (WPS). QA Inspector observed welding parameters measured by the QC CWI Inspector Li Zhijiang to be: welding parameters amps of 295, volts of 30 and a shielding gas flow of 20L/min. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-2231-B-u2a-F.

The following digital photograph below illustrates observation of the activities being performed.

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Summary of Conversations:

No relevant conversations to report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Brannon, Sherri

Quality Assurance Inspector

Reviewed By: Carreon, Albert

QA Reviewer